(12) UK Patent Application (19) GB (11) 2 406 051 (13) A

(43) Date of A Publication 23.03.2005

(21) Application No: 0417980.0

(22) Date of Filing: 12.08.2004

(30) Priority Data:
(31) 0318875 (32) 12.08.2003 (33) GB

(51) INT CL[7]:
G09F 7/04 , A47G 1/17

(52) UK CL (Edition X):
A4X X14
H1P PGXC

(56) Documents Cited:
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(58) Field of Search:
UK CL (Edition X) A4X, H1P
INT CL[7] A47G, B44C, G09F
Other: Online: WPI, JAPIO, & EPODOC

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(54) Abstract Title: **Apparatus to releasably hold and display sheet material**

(57) The invention relates to apparatus (10) for releasably holding and displaying a sheet material (20) such as a photograph or a sheet of paper. The apparatus (10) comprises a housing (11) which includes at least one wall (11a) defining a substantially planar sheet receiving surface. The apparatus (10) further comprises a magnet (13) which is fixed to the interior surface of the sheet receiving surface. A metallic member (14) is magnetically cooperable with the magnet (13) to thus hold and display the sheet material (20) . The housing (11) may include a ballasting material (12) to stabilise the apparatus (10) in use. Alternative embodiments of the invention allow it to be mounted on a metallic surface such as a household radiator via a further magnet (40). The apparatus (10) may also be wall mounted via nail or screw heads which pass through an aperture (50).

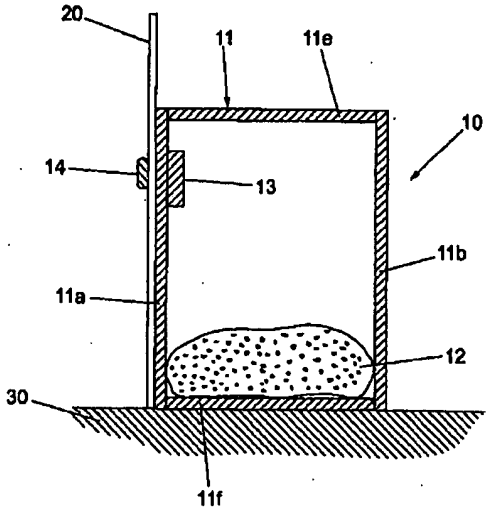

Fig. 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

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Apparatus Adapted to Releasably Hold and Display Sheet Material

The invention relates to apparatus adapted to releasably hold and display sheet material, particularly, but not exclusively, to apparatus adapted to releasably hold and display photographs or sheets of paper.

Devices for holding and displaying objects are known. For example, conventional photograph frames comprise a rigid back plate, which is often made of hardboard, a front plate of the same size as the back plate and clamping means to attach the front plate to the back plate. Generally, a deployable stand is pivotally connected to the back plate. When deployed, the stand allows the photograph frame to be supported on a surface, such as a table top.

Such devices typically suffer from several disadvantages. For example they tend to lack stability and the replacement of photographs or the

like is time consuming and involves numerous steps, i.e. removing the clamping means, separating the front plate from the back plate, removing the photograph, inserting a new photograph, maintaining the new photograph in position whilst repositioning the front plate on the back plate and re-clamping the front and back plates together.

According to the present invention, there is provided apparatus adapted to releasably hold and display sheet material comprising a base member and at least one sheet receiving surface for receiving at least a portion of a surface of sheet material to be held and displayed; wherein the apparatus further comprises at least one magnet and at least one corresponding metallic member, the or each metallic member being magnetically cooperable with its corresponding magnet to thus hold and display the sheet material.

Preferably, the or each sheet receiving surface is substantially planar.

Preferably, the or each sheet receiving surface forms part of a hollow housing having both exterior and interior surfaces.

Preferably, the hollow housing defines a six sided closed-wall structure.

Preferably, the magnet is fixed to the interior surface of the sheet receiving surface.

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Optionally, a further magnet is fixed to an interior surface, said further magnet allowing the apparatus to be magnetically mountable on a metallic surface.

Optionally, an opening is formed in the housing.

Preferably, the opening comprises a circular portion and a slot portion.

Preferably, the metallic member is a ball bearing.

Alternatively, the metallic member is a coin.

Preferably, ballasting material is provided to stabilise the apparatus.

Optionally, the ballasting material is sand.

Alternatively, the apparatus is stabilised by virtue of the density of the material from which the apparatus is made.

Preferably, at least one of the sheet receiving surfaces is inclined.

Preferably, the or each metallic member is magnetically cooperable with its corresponding magnet to thus hold and display sheet material between the metallic member and the magnet.

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Alternatively, the or each metallic member is fixable to the rear surface of the sheet material to be held and displayed such that, when the sheet material is held and displayed, the metallic member is not visible.

Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 is a cross-sectional side view of the apparatus holding and displaying a sheet material;

Fig. 2 is a cross-sectional front view of the apparatus without the sheet material;

Fig. 3 is a perspective view of the apparatus in a partially disassembled state;

Fig. 4 is a view corresponding to that of Fig. 1 in which the metallic member is not visible when the sheet material is held and displayed;

Fig. 5 is a cross-sectional side view of an alternative embodiment wherein the apparatus is magnetically mounted on a household radiator;

Fig. 6a is a cross-sectional side view of a further alternative embodiment wherein the apparatus is supported on a wall via and screw or nail; and

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Fig. 6b is a rear view of the apparatus of Fig. 6a showing the shape of the opening through which a screw or nail head is received.

Fig. 1 shows apparatus 10 for holding and displaying sheet material 20. The sheet material 20 may be of any height and width and may be in the form of, for example, a photograph, a post-card, playing cards, business cards or, more generally, a piece of paper.

The apparatus comprises a housing 11, a ballasting material 12, a magnet 13 and a metallic member 14. The housing 11 has both exterior and interior surfaces defining a hollow six sided closed-wall structure. The housing comprises four substantially vertical walls being a front wall 11a, a back wall 11b and two lateral walls 11c, 11d (see Fig. 2). The housing further comprises two substantially horizontal walls, a lid 11e and a base member 11f, which close the housing at its upper and lower ends. Each wall of the housing 11 is substantially planar.

The front wall 11a defines a substantially vertical sheet receiving surface. It will however be appreciated that the sheet receiving surface can be adapted to be inclined at any desired angle depending upon the specific requirements of the apparatus. Typically, the angle of the incline will fall within the range of 0 to 20 degrees from the vertical, for example, for use in holding sheet material in the form of reading material.

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As shown in Fig. 2, the walls are fastened together using fixing elements 15 such as screws. Alternatively or additionally, the walls may be moulded integrally and/or fixed together by means of a suitable adhesive. The material or materials from which the housing is made may be chosen from a range of material having the appropriate physical properties (such as sufficient rigidity), for example, woods, metals or plastics material. A tin housing has been found to be particularly advantageous because this dispenses with the need to fix the magnet(s) to the interior surface(s) by means of adhesive.

In the example shown in the drawings the ballasting material 12 is a plastic bag filled with sand or an aggregate. The ballasting material 12 is placed within the housing 11 and rests on the horizontal base member 11f in order to stabilise the housing 11. However, the ballasting material may instead be in the form of a piece of wood, a piece of plastics material or any other suitable material having a sufficient weight to stabilise the housing 11 in use. Moreover, the weight of the housing 11 itself may be sufficient to stabilise it during use thereby dispensing with the need to provide a separate ballasting material.

As shown in Figs 1 and 2, the magnet 13 is attached, for example glued, to the interior surface of the sheet receiving surface 11a. The magnet 13 may be of any shape but includes, advantageously, a flat

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portion facilitating its fixing to the interior surface of the sheet receiving surface 11a.

The metallic member 14 is preferably in the form of a small piece of metal which is magnetically coupled to the magnet 13. The attracting magnetic force of the magnet 13 is sufficient to maintain the metallic member 14 in place on the sheet receiving surface 11a. The metallic member may be a coin, such as a British one pence coin (produced after September 1992) or British one pound coin. Equally of course, it may be a coin from any country and of any value which comprises a high degree of metal to facilitate its magnetic attraction to the magnet 13. In another example, the metallic member 14 is in the form of a spherical ball bearing which can also be maintained in position on the sheet receiving surface 11a of the housing 11. In a further example, the metallic member 14 is in the general shape of a drawing pin having a curved circular part and a stem extending therefrom. The stem allows a user to manually grip and remove the metallic member 14 from the sheet receiving surface 11a.

The apparatus according to the invention is assembled as follows. The side walls 11a, 11b, the lateral walls 11c, 11d and the base member 11f are screwed together (as shown in Fig. 2). Alternatively the housing is formed of a moulded open box 111a with a lid 111b (as shown in Fig. 3). The ballasting material (in this case a sand bag 12) is then placed between the lateral walls, onto the

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base member 11f. The sand bag 12 may be deformed to facilitate its introduction between the front wall, the back wall and the two lateral walls. The magnet 13 is then fixed to interior surface of the sheet receiving surface 11a. The upper wall 11e is then screwed to the lateral walls. Alternatively, in the embodiment of Figure 3, the lid 111b may be glued flush with the open box 111a. The metallic element 14 is placed on the outside of the sheet receiving surface 11a, in a position which corresponds to that of the of the magnet 13.

The apparatus may then be placed on a supporting surface such as a table top 30 with the weight of the bag of sand 12 acting to stabilise the apparatus.

When a user wishes to hold and display a piece of sheet material such as a photograph, the metallic member 14 is, if necessary, detached from the sheet receiving surface 11a of the housing 11 and the sheet material to be held and displayed is applied to the sheet receiving surface 11a. The metallic member 14 is then replaced to hold the sheet material in position. At least a portion of the surface of the sheet material is positioned against the sheet receiving surface 11a and is interposed between the magnet 13 and the metallic element 14.

In an another arrangement shown in Fig. 4, the metallic member 14 may be fixed to the rear surface of the sheet material to be held and displayed, for

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example, by means of adhesive. An advantage of this arrangement is that the metallic member is not visible to the viewer and the front surface of the sheet material is not damaged by the metallic member. This arrangement may be particularly suitable for use with photographs, paintings and drawings.

In an alternative embodiment shown in Fig. 5, a further magnet 40 is fixed to the interior surface of the housing which lies opposite the interior surface on which magnet 13 is mounted. Accordingly, the housing 11 can be mounted on a metallic surface such as a household radiator instead of being supported on a surface such as a table top 30 (as shown in Figs. 1 and 2). In such an arrangement it would not be necessary to use ballasting material because the magnetic attraction of the further magnet 40 to the metallic surface would be sufficient to stabilise the housing 11. A further magnet may optionally be fixed to the interior surface of the base member 11f in order to facilitate the mounting of the housing 11 on a metallic surface.

In a further alternative embodiment shown in Fig. 6a, an aperture 50 is formed centrally through the wall of the housing 11 which is opposite the surface on which magnet 13 is mounted. The aperture 50 comprises a circular portion and a slot portion which, taken together are in the general shape of an inverted keyhole (see Fig. 6b). The circular

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portion is dimensioned to receive the head of a wall mounted screw or nail and the slot portion is dimensioned to sufficient to receive the stem of a screw or nail whilst not allowing the head of the screw or nail to pass through it. Accordingly, the housing 11 may be mounted onto a wall via the screw or nail head. Once the screw or nail head is introduced through the circular portion of the aperture 50, the housing 11 is lowered such that the stem portion of the screw or nail is received in the slot portion of the opening thus securing the head portion behind the narrower slot portion. Again, the use of a ballasting material may not be necessary.

It will be appreciated that using a ball bearing as a metallic element presents some advantages. For example, the sheet material 20 to be held and displayed may be repositioned on the sheet receiving surface 11a of the housing 11 without the need to first detach the ball bearing from the magnet 13. This is because the spherical surface of the ball bearing allows it to rotate to the position closest to the magnet 13. Also, the sheet material 20 may be removed from the device without the need to remove the ball bearing and a new sheet material may be quickly and easily loaded onto the sheet receiving surface 11a using the same method.

While the invention has been described in conjunction with the exemplary embodiments described above, modifications and variations will be apparent

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to those skilled in the art without departing from the scope of the invention. For example, the housing wall need not be planar and the housing may be of any shape. Also, additional magnets could be added on the same or different walls to hold additional objects or sheets of material. For example, for supporting two or more pictures or pieces of reading material. It will also be appreciated that the magnetic force may be adapted to be sufficient to hold several sheets of material which are stacked together, i.e. a number of sheets of paper or cards etc.

Moreover, the apparatus may be used to hold cut-out profiles or sheet materials which have been adapted to have three dimensional surface qualities.

The apparatus may also be adapted to hold a mobile telephone whilst it is charging.

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CLAIMS

1. Apparatus adapted to releasably hold and display sheet material comprising a base member and at least one sheet receiving surface for receiving at least a portion of a surface of sheet material to be held and displayed; wherein the apparatus further comprises at least one magnet and at least one corresponding metallic member, the or each metallic member being magnetically cooperable with its corresponding magnet to thus hold and display the sheet material.

2. Apparatus according to claim 1, wherein the or each sheet receiving surface is substantially planar.

3. Apparatus according to claim 1 or 2, wherein the or each sheet receiving surface forms part of a hollow housing having both exterior and interior surfaces.

4. Apparatus according to claim 3, wherein the hollow housing defines a six sided closed-wall structure.

5. Apparatus according to claims 3 or 4, wherein the magnet is fixed to the interior surface of the sheet receiving surface.

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6. Apparatus according to claim 5, wherein a further magnet is fixed to another interior surface, said further magnet allowing the apparatus to be magnetically mountable on a metallic surface.

7. Apparatus according to claim 3, wherein an opening is formed in the housing.

8. Apparatus according to claim 7, wherein the opening comprises a circular portion and a slot portion.

9. Apparatus according to any preceding claim, wherein the metallic member is a ball bearing.

10. Apparatus according to any of claims 1 to 8, wherein the metallic member is a coin.

11. Apparatus according to any preceding claim, wherein ballasting material is provided to stabilise the apparatus.

12. Apparatus according to claim 7, wherein the ballasting material is sand.

13. Apparatus according to any of claims 1 to 10, wherein the apparatus is stabilised by virtue of the density of the material from which the apparatus is made.

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14. Apparatus according to any preceding claim, wherein at least one sheet receiving surface is inclined.

15. Apparatus according to any preceding claim, wherein the or each metallic member is magnetically cooperable with its corresponding magnet to thus hold and display sheet material between the metallic member and the magnet.

16. Apparatus according to any of claims 1 to 13, wherein the or each metallic member is fixable to the rear surface of the sheet material to be held and displayed such that, when the sheet material is held and displayed, the metallic member is not visible.

17. Apparatus as hereinbefore described with reference to the accompanying drawings.

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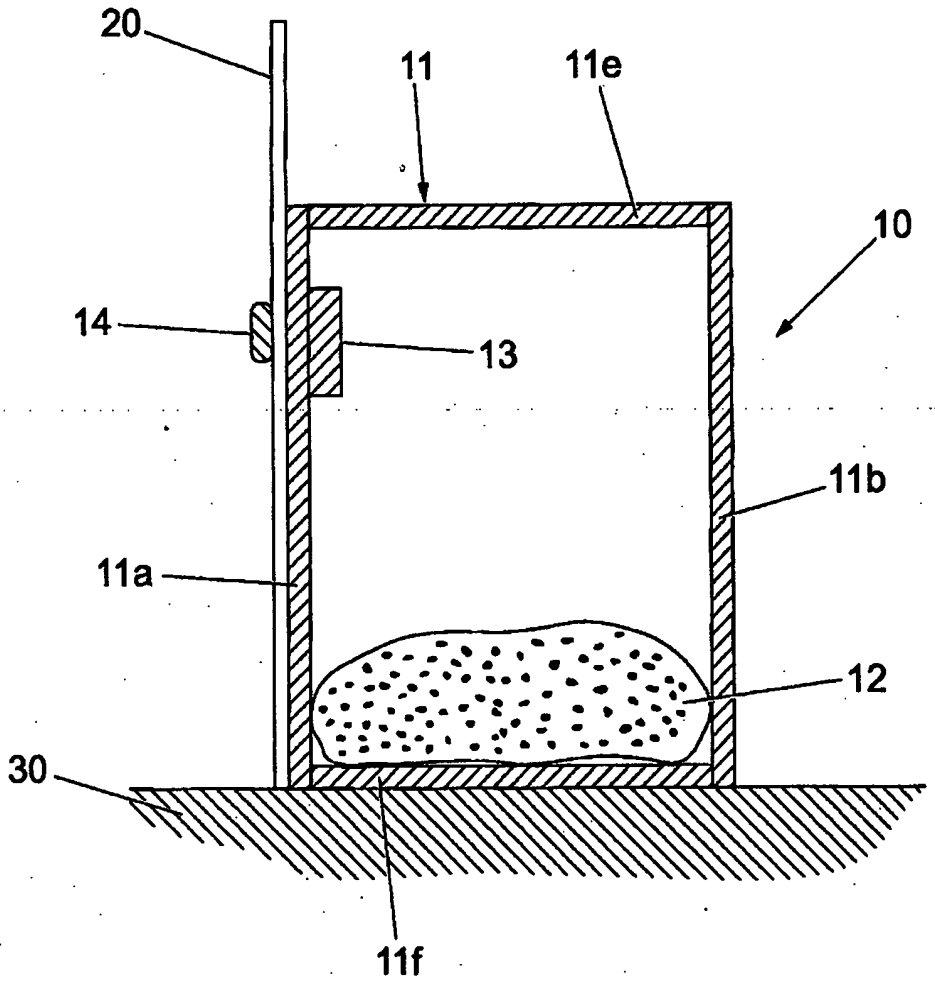

Fig. 1

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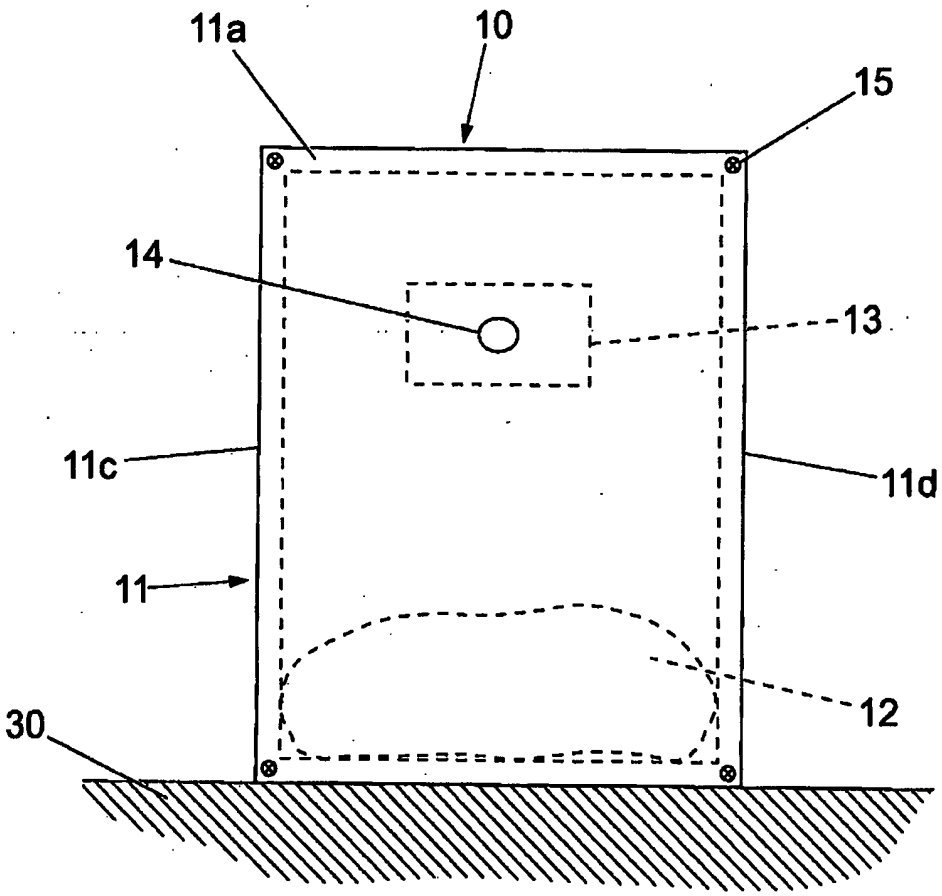

Fig. 2

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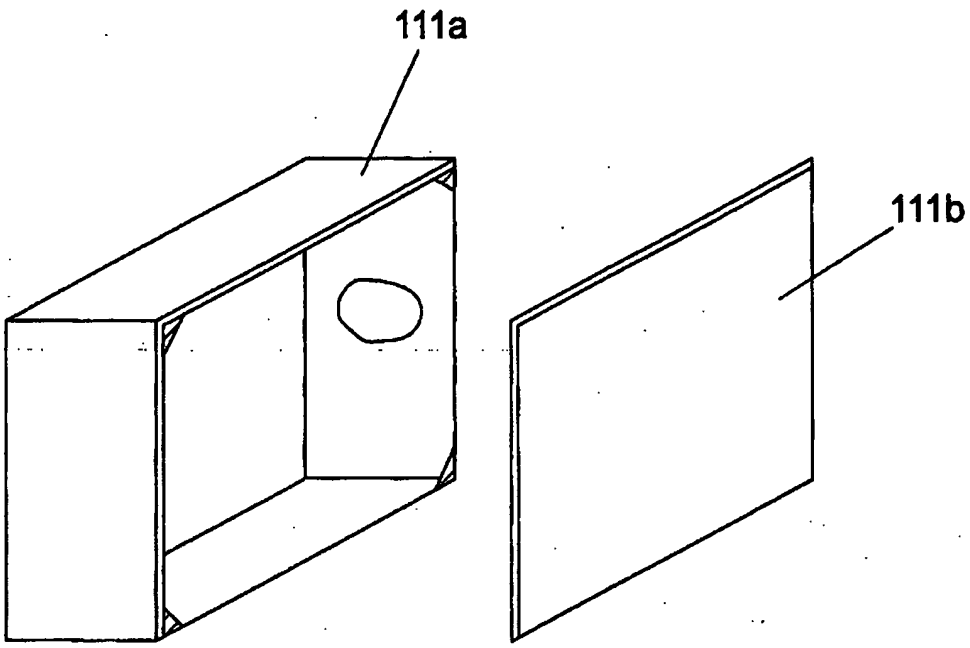

Fig. 3

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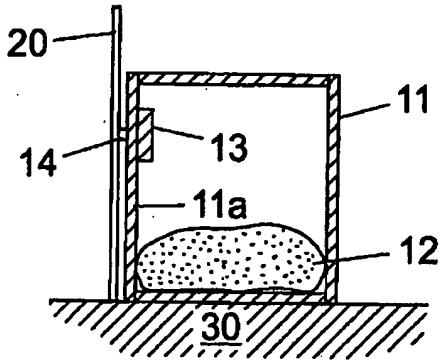

Fig. 4

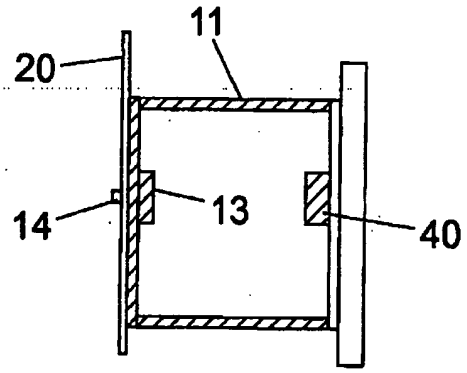

Fig. 5

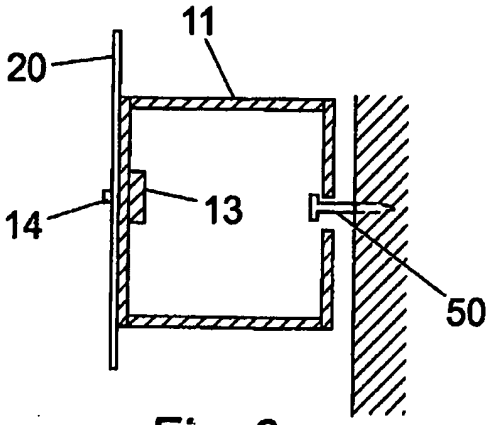

Fig. 6a

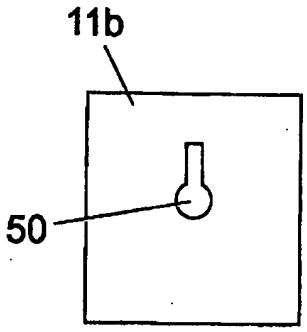

Fig. 6b

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